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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/804,232      | 03/19/2004  | Ovidiu Marin         | Serie 6490          | 6075             |

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04/04/2007

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| EXAMINER |
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DUONG, THO V

|          |              |
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| ART UNIT | PAPER NUMBER |
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3744

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS                               | 04/04/2007 | PAPER         |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/804,232

Applicant(s)

MARIN ET AL.

Examiner

Tho v. Duong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3-7,9-13,15-21 and 23-28 is/are pending in the application.
- 4a) Of the above claim(s) 3-7,12,15,18-21 and 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,9-11,13,16-17,23-25 and 27-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

Receipt of applicant's amendment filed 1/02/07 is acknowledged. Claims 1,3,4-7,9-13,15-21 and 23-28 are pending. Claims 3-8,12,15,18-22 and 26 remain withdrawn from further consideration.

Applicant is also reminded to correct the status identifier of claims. Claims 3 and 15 should be identified as "Withdrawn" and claim 6 should be identified as "Currently amended withdrawn".

### ***Response to Arguments***

Applicant's arguments filed 1/2/07 have been fully considered but they are not persuasive. Regarding applicant's argument that claims 3 and 15 should be examined because these claims are encompassed by the elected species, has been very carefully considered but is not deemed to be persuasive because applicant has elected species of figure 5, which shows the embodiment of the solid fins. Clearly, the alternative species of hollow fins that permit medium to flow into portion of the fins, is not elected. Therefore, claims 3 and 15 remain withdrawn from further consideration.

Applicant's arguments, see Remark page 9, filed 1/2/07, with respect to reference to Linden have been fully considered and are persuasive. The rejection of claims under Linden has been withdrawn.

Applicant's arguments filed 1/2/07 have been fully considered but they are not persuasive. Regarding applicant's argument that Mitsuhiro's spiral groove can not reasonably be construed as a spiral fins, has been very carefully considered but is not found to be persuasive. Mitsuhiro's spiral groove elements (8) include spiral cavities and channels formed between spiral

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protrusions (fins). Similar to applicant's figure 5, cavities and channels are also formed between the protrusions (fins). Therefore, Mitsuhiro's groove element (8) is reasonably to read on fins because the groove elements includes fins element (protrusion parts).

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,13,16,17,27 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Shiono Mitsuhiro (JP 11060287). Shiono discloses (figures 1-3) a heat exchanger system and a method for cooling an optical fiber comprising an outer tube section (4); an inner tube section (5) disposed within and separated a selected distance from the outer tube to form an annular gap (9) there between, wherein the inner tube section includes an internal passage (10) configured to receive and cool the fiber as the fiber moves through the heat exchanger; and a plurality of fins formed by a spiraling element (8) extending transversely from internal peripheral wall portions of the inner tube section toward a central axis of the inner tube section, wherein the fins facilitate heat transfer between a cooling medium (water) flowing through the annular gap and helium flowing within the inner tube section during system operation.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9-11 and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiono in view of Koaizawa et al. (US 5,897,682). Shiono substantially discloses all of applicant's claimed invention as discussed above except the limitation that a recycle line connects the coolant fluid outlet to the coolant inlet and a fan or pump disposed within the recycle line between the inlet and the outlet. Koaizawa discloses (figure 1) a heat exchanger for cooling an optical fiber that has a recycle line (10) equipped with a pump (22) connecting between a fluid coolant inlet (4b) and a fluid coolant outlet (4a) for a purpose of purifying and re-using the fluid coolant of the heat exchanger. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Koaizawa's teaching in Shiono's heat exchanger for a purpose of purifying and re-use the fluid of the heat exchanger.

#### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tho v. Duong whose telephone number is 571-272-4793. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tyler J. Cheryl can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Tho v Duong  
Primary Examiner  
Art Unit 3744



TD  
March 27, 2007